UNITED STATES PATENT AND TRADEMARK OFFICE

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09/735,919	04/09/2001	Marc Herrmann	T3264-906756	5817

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EXAMINER
BENGZON, GREG C

ART UNIT	PAPER NUMBER
2144	

NOTIFICATION DATE	DELIVERY MODE
10/01/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>03 August 2007</u>.

2a) ☒ This action is **FINAL.**   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>26-35</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>26-35</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

This application has been examined. Claims 26-35 are pending. Claims 1-25 are cancelled.

Making Final

Applicant's arguments filed 08/03/2007 have been fully considered but they are not persuasive.

The claim amendments regarding -- *'each indicator comprising a value'* -- and -- *'an equation for calculating a value'* -- while altering the scope of the claims do not overcome the disclosure by the prior art as shown below.

The Examiner is introducing new grounds for rejection as necessitated by the amendments and thus making this action FINAL.

Priority

The effective date of the claims described in this application is December 16, 1999.

Claim Interpretation

Before any construction of the claims occur, it is essential that the terms in the claim(s) be clearly defined. Here are the definitions which the Examiner has determined to be most reasonable for important terms in the claims. In light of the; overly broad and nebulous disclosure, these definitions will be relied on to properly understand what is being claimed.

1. Agent: an autonomous process performing a service (as used in the art)

2. Indicators: scalar (numerical) representations of states of computing components (per present specification, Page 1, Lines 17-23)

3. Indicator agents: process which determines particular indicators (per present specification, Page 1, Lines 17-23)

4. Domain: logical grouping of network computing nodes (per present specification, Page 4, Lines 11-12)

5. Configuration agent: process which creates indicator agents (per present specification, Page 10, Lines 15-26)

6. Subscriber List: a data table storing the names of other indicator agents.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 26-35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 26 recites "*an equation for calculating said value*". Since no equation has been expressly defined, it is impossible to determine proper metes and bound of this limitation.

It is suggested that positive, functional behavior be recited in the claims so the metes and bounds of the claims can be easily ascertained, and a definition of what it is the inventor seeks to patent is reasonably and clearly stated.

Claim 26 recites ' *indicators comprising a value and an equation for calculating said value.*' The Examiner notes that there is insufficient guidance in the Applicant Specifications regarding said limitation. The Examiner notes that where said Indicators are scalar (numerical) representations of states, then the same indicator cannot be comprising a mathematical equation at the same time.

Claim 28 recites a limitation for '*which indicator agents identified by the second object class "I Indicator"*'. There is insufficient antecedent basis for this limitation in

the claim. The Examiner notes that there is no prior indication or suggestion wherein

the said object class 'I_Indicator' identifies any indicator agents. The Applicant is

respectfully requested to provide support in the Specifications for said limitation.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the

claims under 35 U.S.C. §103(a), the examiner presumes that the subject matter of the

various claims was commonly owned at the time any inventions covered therein were

made absent any evidence to the contrary. Applicant is advised of the obligation under

37 CFR §1.56 to point out the inventor and invention dates of each claim that was not

commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. § 103(c) and potential 35 U.S.C. §102(f) or (g)

prior art under 35 U.S.C. §103(a).

Claims 26-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Turek et al. (U.S. Patent Number 6,460,070), hereinafter referred to as Turek, in view of

Jung et al. (U.S. Patent Number 6,308,208) further in view of Anerousis (US Patent

6393472).

Using the above definitions for claim terms, Examiner has concluded that the

independent claims (i.e. Claim 26) require determination of a set of variables (i.e.,

indicators) to dictate what is intended to be measured (i.e., indicated) at specified

nodes, on a list, defining a given domain. Among these nodes on the list, processes are

spawned/created/configured/etc., to determine the specified indicators on each node.

The dependent claims range from arbitrary function call names to agent process

generalizations.

Turek disclosed construction of software agents by selection or assembling one

or more tasks. See, inter alia, Column 2, Lines 37-41, and Column 7, Lines 49-57. This

agent is deployed to measure one or more "indicators" at the specified node(s). See,

inter alia, Column 2, Lines 47-49. The disclosed gateways act to manage their own

"domain" of nodes. See, inter alia, Column 4, Lines 50-58. The system is equipped to

recognize and rectify myriad differing network conditions.

Jung provided very similar teachings, related again with network conditions and

deployed agents. See, inter alia, Columns 1-2. Jung expressly disclosed the scalar

measurement of "indicators" as claimed. See, inter alia, Column 2, Line 26 through

Column 3, Line 6. The system acted to propagate determined values of network

measured resources to other agents in the system for coordinated system

management. See, inter alia, Column 3, Lines 2-6. This provided a mechanism for

monitoring and managing an entire realm of system "indicators". See, inter alia, Column

4, Lines 34-38. The system used atomic indicator agents which were capable of

referencing each other, while having attributes indicating state (i.e., indicating agents,

and indicators, as claimed). See, inter alia, Column 6, Line 63 through Column 7, Line

Also, the "cells" were completely customizable, equipped to perform any one or

various sets of functions. See, inter alia, Column 7, Lines 10-19. Thus, the system

operated to propagate changes and observed states to other autonomous agents for

purely distributed management. Lastly, the use of multiple agents (i.e., the use of

concurrently operating/executing cells and maintenance of cell states) was likewise .

evident. See, inter alia, Column 7, Lines 32-61. 33. The combination of these teachings

was not challenged by Applicant. This makes sense, since the inventions are

subcombination usable together on the same system. Note Figures 1, both Patents. The

resulting systems provided a system operating to configure and deploy operating agents

to specified domains which resulted in logical arrangements of monitored "indicators".

Turek disclosed (re. Claim 26) a plurality of indicator agents that evaluate

indicators, each indicator characterizing the status or the operation of one or more

resources of the computer system. (Turek- Column 2, Lines 37-41, and Column 7, Lines 49-57)

Turek disclosed (re. Claim 26) configuration means (Turek-Column 4 Lines 40-55) that specifies the domain or domains of the computer system [Turek- (Turek-Column 4 Lines 40-55, *'managed region'*] in which each indicator agent should be deployed, the configuration means comprising a configuration deployment agent (Turek-Column 7 Lines 50-60, *'dispatch mechanism'*) that creates, for each resource to be monitored, a configuration agent, wherein each configuration agent creates the plurality of indicator agents for the resource and each indicator agent evaluates one of the plurality of indicators, each indicator agent managing a subscriber list.

While Turek substantially disclosed the claimed invention, Turek did not disclose (re. Claim 26) <u>writing an identification of at least one other indicator agent *on a subscriber list stored on the storage means of the computer equipment associated with the indicator agent*</u>. Turek did not disclose (re. Claim 26) *an equation for calculating the value of said indicators.*

Jung disclosed (re.Claims 26) <u>writing an identification of at least one other indicator agent</u> (Jung-Column 8 Lines 5-15, *'control mechanism implementing cell identification techniques and cell state propagation'*) <u>*on a subscriber list stored on the storage means of the computer equipment associated with the indicator agent*</u>. (Jung-

Figure 5, Item 52n and Item 55, Column 7 Lines 25-30,'propagation control

mechanism')

Jung disclosed a propagation control mechanism in each cell, such that each cell

is aware of the observing cells that need to know the state changes being propagated.

Turek,Jung, and Anerousis are analogous art because they present concepts

ant practices regarding distributed network monitoring agents. At the time of the

invention it would have been obvious to combine Jung into Turek. The motivation for

said combination would have been (Jung-Column 1 Lines 65) to provide a resource

model-based management scheme that operates across distributed nodes.

Anerousis disclosed (re. Claim 26) an indicator compiler that generates for each

indicator, after analyzing an equation associated with the indicator, (Anerousis-Column

8 Lines 10-15) two object classes, which respectively correspond to the indicator

deployment agents that deploy the agents (Anerousis-Column 10 Lines 60-65,'every

AMO must be instantiated within a MAVS') and to the indicator agents that evaluate the

indicator. (Applicant-Figure 1, Column 7 Lines 45-55,'Aggregated Managed Objects')

The Examiner notes that Anerousis disclosed a special management agent

called MAVS which is equivalent to the claimed invention's 'I_Deployer' object class.

Similarly Anerousis disclosed AMOs which are equivalent to the claimed inventions'

'I_Indicator' object class.

Furthermore Anerousis disclosed analyzing a selection formula [filter function] in order to determine which indicator agents ['*managed objects*'] are used to evaluate each indicator.

Turek, Jung, and Anerousis are analogous art because they present concepts ant practices regarding distributed network monitoring agents. At the time of the invention it would have been obvious to combine Anerousis into Turek-Jung. The motivation for said combination would have been (Anerousis-Column 2 Lines 35-40) to aggregate the control of a large number of network elements into simpler interfaces.

Turek-Jung-Anerousis disclosed (re. Claim 27) wherein each configuration agent comprises means which creates an indicator agent (Turek-Column 7 Lines 50-55) for each indicator of the resource to which said indicator is assigned, said indicator agent being an indicator deployment agent which determines, for the indicator with which said deployment agent is associated, various combinations of the values (Turek-Column 7 Lines 10-15, *'events of which they are interested in receiving notice'*) of the variables *used by the equation from which said indicator is calculated*. (Anerousis-Column 8 Lines 10-15)

While Turek-Jung substantially disclosed the invention, Turek-Jung did not disclosed (re. Claim 28) an indicator compiler that generates for each indicator, _after analyzing the equation from which said indicator is calculated_, two object classes "I_Deployer" and "I_Indicator", which respectively correspond to the indicator deployment agents that deploy the instances of the class "I_Indicator" and to the indicator agents that evaluate the indicator.

While Turek-Jung substantially disclosed the invention, Turek-Jung did not disclosed (re. Claim 28) _wherein the first class object "I Deployer" is configured to specify which indicator agents identified by the second object class "I Indicator" must be created and to declare to a naming service the indicator agents actually created._

Turek-Jung-Anerousis disclosed (re. Claim 28) an indicator compiler that generates for each indicator, _after analyzing the equation from which said indicator is calculated_, (Anerousis-Column 8 Lines 10-15) two object classes, which respectively correspond to the indicator deployment agents that deploy the agents (Anerousis-Column 10 Lines 60-65,'every AMO must be instantiated within a MAVS') and to the indicator agents that evaluate the indicator. (Applicant-Figure 1, Column 7 Lines 45-55,'Aggregated Managed Objects')

Turek-Jung-Anerousis disclosed (re. Claim 28) _wherein the first class object_

_"I_Deployer" is configured to specify which indicator agents identified by the second_

_object class "I_Indicator" must be created_ (Anerousis-Column 10 Lines 60-65,' _every_

AMO must be instatiated with a MAVS') _and to declare to a naming service the_

indicator agents actually created. (Anerousis-Column 11 Lines 15-20,' _AMO service_

registry')

The Examiner notes that Anerousis disclosed a special management agent

called MAVS which is equivalent to the claimed invention's 'I_Deployer' object class.

Similarly Anerousis disclosed AMOs which are equivalent to the claimed inventions'

'I_Indicator' object class.   Furthermore the MAVS instantiate AMOs according to the

aggregation rule and filter function being performed being applied to the AMO.

(Anerousis-Column 4 Lines 1-10)

Furthermore Anerousis disclosed analyzing a selection formula [filter function] in

order to determine which indicator agents ['_managed objects_'] are used to evaluate

each indicator. (Anerousis-Column 8 Lines 10-20)

At the time of the invention it would have been obvious to combine Anerousis into

Turek-Jung. The motivation for said combination would have been (Anerousis-Column

2 Lines 35-40) to aggregate the control of a large number of network elements into

simpler interfaces.

Turek-Jung-Anerousis disclosed (re. Claim 29,30) the indicator agent comprises

name resolution means which resolves the names of objects referenced from which the

indicator is calculated (Anerousis-Column 8 Lines 25-30, 'resolved into a list of element

management agents')

Turek-Jung-Anerousis disclosed (re. Claim 31) searching for all objects identified

in the equation from which the indicator is calculated, (Anerousis-Column 8 Lines 25-35)

and

means which creates the indicator agent associated with the indicator

deployment agent if the constraint is satisfied, using as parameters the objects

corresponding to the valid combinations of the values of the variables found.

Turek-Jung-Anerousis disclosed (re. Claim 32,33) wherein the configuration

deployment agents and the configuration agents are managed by at least one agent

machine installed in at least one resource of the monitored domain, (Anerousis-Column

7 Lines 50-65) *said one agent machine being configured to handle the distribution of*

one or more subscription notifications and the transmission of the subscription

notifications and the management of overall indicator agent atomicity. (Jung- Figure 5,

Item 52n and Item 55, Column 7 Lines 25-30,'propagation control mechanism')

Jung disclosed a propagation control mechanism in each cell, such that each cell

is aware of the observing cells that need to know the state changes being propagated.

The Examiner notes that since Anerousis disclosed separate MAVS (Anerousis-Column

11 Lines 40-45) it would have been obvious to combine the propagation mechanism by

Jung into the MAVS hierarchy by Anerousis in order for the aggregation system to work.

Turek-Jung-Anerousis disclosed (re. Claim 34,35) means which manages each

indicator deployment agent either by the agent machine that manages the configuration

agent associated with the indicator deployment agent, or by a different agent machine

(Anerousis-Column 7 Lines 50-65) *said agent machine being configured to handle the*

distribution of one or more subscription notifications and the transmission of the

subscription notifications and the management of overall indicator agent atomicity.

(Jung- Figure 5, Item 52n and Item 55, Column 7 Lines 25-30,'propagation control

mechanism')

Response to Arguments

Applicant's arguments filed 08/03/2007 have been considered but are not

persuasive.

The Applicant presents the following argument(s) [*in italics*]:

Jung does not appear to teach that the subscriber list being managed by the

associated indicator agent, and stored using storage means of the computer equipment

associated with the indicator agent.

The Examiner respectfully disagrees with the Applicant.

The Examiner notes that the subscriber list is a data table storing the names of

other indicator agents. Jung disclosed a monitoring node for storing attributes and

event corresponding to an observed node, where the observed attributes and events

are stored a local database (Jung-Column 1 Lines 15-20), said local database thus

being equivalent to a subscriber list.

Jung disclosed a propagation control mechanism <u>in each cell</u>, such that <u>each cell</u>

<u>is aware of the observing cells that need to know</u> the state changes being propagated.

(Jung- Figure 5, Item 52n and Item 55) Thus Jung disclosed that each cell is storing a

list of other nodes in its local database.

Where Jung disclosed cell identification and state change propagation where said cell information is maintained on a database, Jung disclosed '*where each writing means is arranged to write an identification of at least one other indicator agent in the* <u>*subscriber list.*</u>'

The Examiner notes that it would have been inherent for the control mechanism by Jung to have writing means associated with each node, in order to update the node local database.

Conclusion

Examiner's Note: Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.
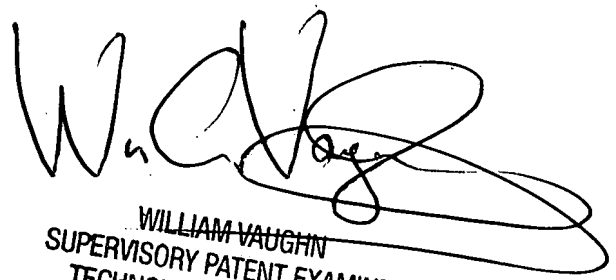
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Greg Bengzon whose telephone number is (571) 272-3944. The examiner can normally be reached on Mon. thru Fri. 8 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Vaughn can be reached on (571)272-3922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

gcb

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